

MODEL

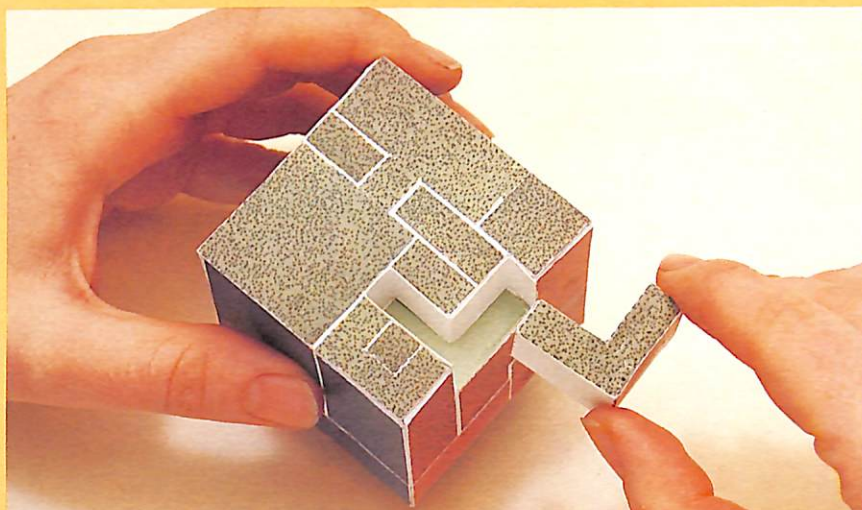
ASSEMBLY INSTRUCTIONS

You will need

Scissors • Ruler • Craft knife • Glue

Cut out and make up each of the 18 puzzle pieces, then see how long it takes you to work out how the pieces fit together to form a complete cube. Because the pieces have to fit snugly together, it is important to keep your folding and gluing as neat and clean as possible. Try building the cube using only the colours and your own logic. If it becomes too mind boggling, however, you can refer to the 'Solution' diagram on the 'Projects' sheet, overleaf. Once you know the secret, try it out on your friends.

BRAIN TEASER



Before cutting out the pieces, score along all broken lines with a blunt edge and ruler to make folding and gluing easier. Broken lines shown in red indicate that those folds should be reversed, so score along these lines on the back of the card. Cut out and assemble each piece in turn before going on to the next piece.

NB please note that piece **H** is made up from three sections (**H**, **HA**, **HB**).

To make up

1 Cut out piece **A**. Fold to shape, so that all the numbered tabs meet up with their corresponding numbers. For example, bring tab 1 round to meet the figure 1 on the back of piece **A**. Carry on folding until each tab meets its

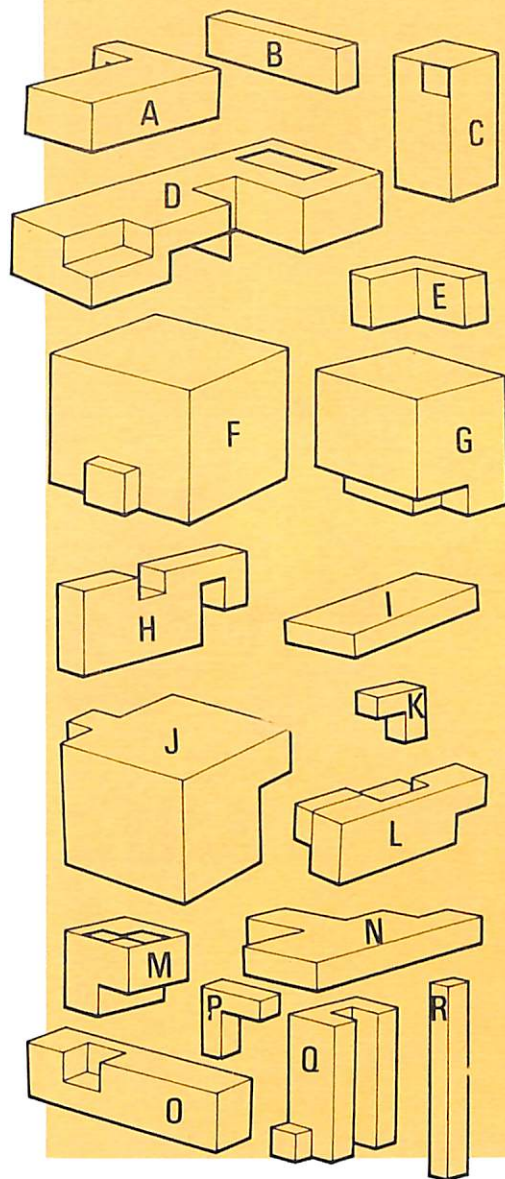
corresponding number. Check that the shape is correct by comparing it with the illustration of piece **A** left. When you are sure that it is right, glue each tab in position.

2 Continue cutting out and assembling each piece until all 18 pieces are complete.

How to use Brain Teaser

Place the 18 pieces of the puzzle in front of you. Using only the colours – and your own logic – as a guide, assemble the pieces together to form a cube.

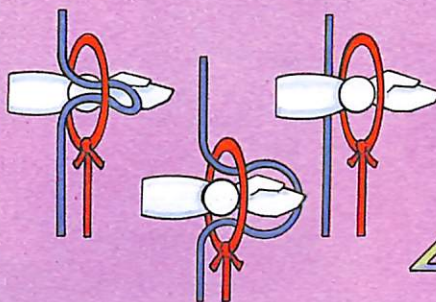
HINT The cube is built up in coloured layers!



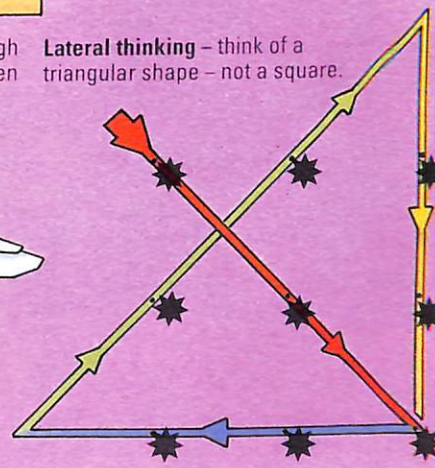
CORRECTION Quest 7 - Flight • Model Assembly instructions **Blackbird Spy Plane** ASSEMBLY DIAGRAM: Fuselage pieces **G** and **H** should be reversed, so that **G** is on the bottom, and is glued to fuselage **F**: **H** is on the top, and is glued to fuselage **E**. Unfortunately the reverse side of the card contains a mirror image of the front. To avoid confusion remember that the black cutting and positioning marks are on the front.

PROJECTS – Solutions

A loopy puzzle – slip one string through one of the other person's wrist loops, then over their hand.



Lateral thinking – think of a triangular shape – not a square.





PROJECTS

BRAIN POWER

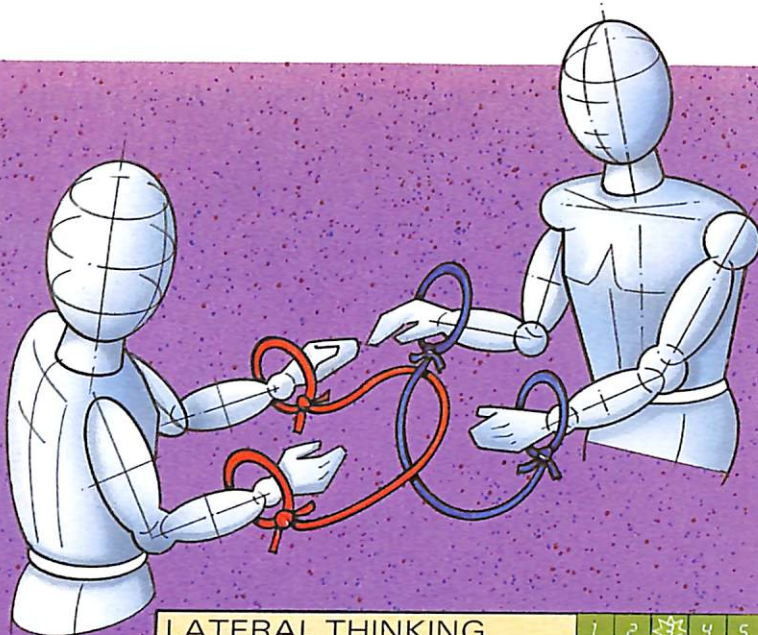
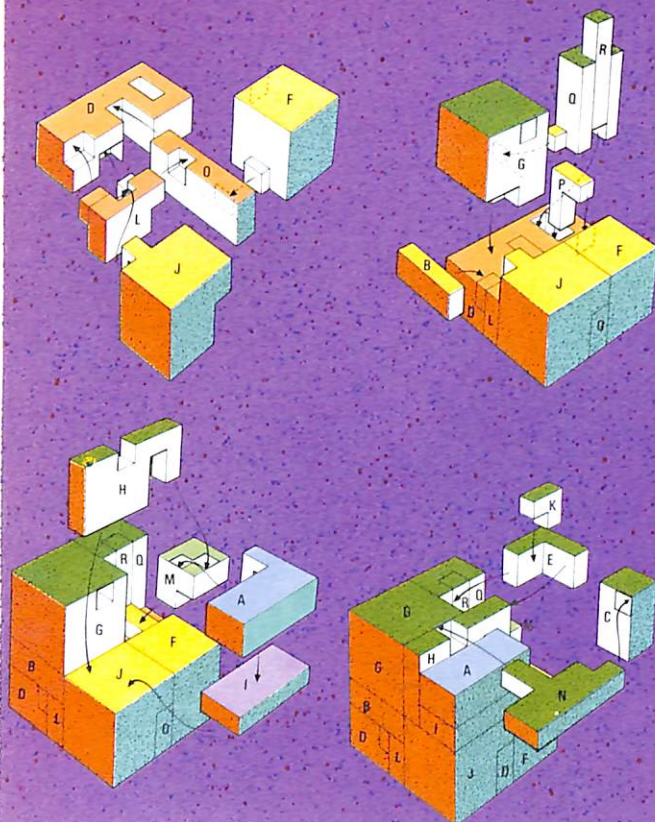
- How good are you at solving problems?
- Discover how unconventional you are in the way you think
- Test your powers of recall

A LOOPY PUZZLE 1 2 3 4 5

People good at arithmetical problems are not always so good at practical puzzles. This one involves the branch of geometry known as topology. It deals with the connections between objects, rather than with their shapes or sizes. Try this with a friend and see if you can separate yourselves without cutting the string, untying the knots or slipping your hands from the loops.

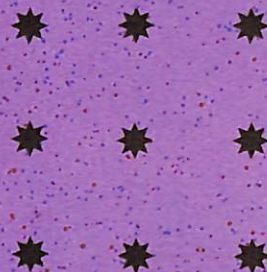
Take a piece of string and tie the ends around a friend's wrists. Pass another piece of string around the first piece, then get your friend to tie the ends around your own wrists. The strings will now link you together. It may look impossible, but try to find a way of unlinking the strings. If you have difficulty, it may help to consider how the linkage between the loops differs from that of a chain. The solution is given overleaf.

BRAIN TEASER – Solution



LATERAL THINKING 1 2 3 4 5

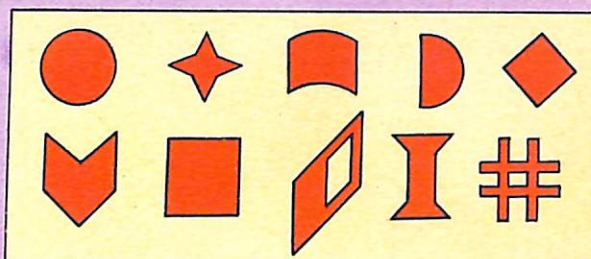
Find out how creative you are. The faster you can resolve the puzzle, the more inventive your mind.



If you don't want to mark your project sheet, copy the above pattern on to a piece of paper. Join the stars together using only four straight lines, without removing the pencil from the paper and without retracing any line. Clue: don't think of the stars as a square. The solution is given overleaf.

VISUAL MEMORY 1 2 3 4 5

Some people have a photographic memory and are good at remembering anything they see. Find out how good you are at recalling these shapes.



Study the shapes above for about one minute. Next, cover them up and see how many you can draw on a separate sheet of paper. If you scored four or less, try again, this time associating the shapes with objects, such as a cotton reel or army badge.



Each **QUEST** project has been given its own difficulty rating: 1 very simple 2 simple 3 intermediate 4 advanced 5 complicated.

Every care has been taken to ensure projects are as safe as possible. However, parents should supervise all projects. The publisher can accept no liability for any injury.

WARNING!